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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/039,204      | 01/04/2002  | William C. Black     | X-984 US            | 2051             |

24309 7590 01/29/2007  
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| EXAMINER |
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PATEL, NIKETA I

|          |              |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2181

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|----------------------------------------|------------|---------------|
| 3 MONTHS                               | 01/29/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/039,204 | <b>Applicant(s)</b><br>BLACK ET AL. |  |
|                              | <b>Examiner</b><br>Niketa I. Patel   | <b>Art Unit</b><br>2181             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 and 23-69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15 is/are rejected.
- 7) ☒ Claim(s) 16-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                 |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                            | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/4/02</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Species VI (claims 15-22) in the reply filed on 10/24/2006 is acknowledged. The traversal is on the ground(s) that the examiner has not provided claims associated with each alleged species and in the most recent Office Action, only some of the claims and their respective species were identified. Furthermore, the reasons for species restriction and a serious burden on the examiner need to be shown.

This is not found persuasive because the patentably distinct species (Species I-VIII) identified in the Office Action mailed on 06/23/2006 represent different embodiments having different structural elements, which would require additional consideration and therefore will be burdensome to the examiner. With respect to the Action mailed on 09/20/2006, the examiner had associated claims 1-22, which the applicant had elected as claims which read on Species I in the response filed on 07/03/2006, to the respective Species with the intentions of providing guidance to the applicant in understanding that the majority of the claims 1-22 did not read on Species I, figure 4. As indicated in the Office Action mailed on 06/23/2006 (page 1, last paragraph) the applicant must include an identification of the species that is elected and a listing of all claims readable thereon, in reply to the restriction requirement set forth in the Office Action.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Bechtolsheim et al.

U.S. Patent Number: 6,956,852, B1 (hereinafter "*Bechtolsheim*".)

4. **Referring to claim 15**, *Bechtolsheim* teaches a distributed buffering system comprises: input buffer that includes a plurality of input memories [see column 6, lines 63-67; column 7, lines 1-5, the transmit buffer, data bytes and figure 15, element 370], wherein the input buffer stores at least one data block and wherein each of the plurality of input memories stores a corresponding portion of the at least one data block [see column 6, lines 63-67; column 7, lines 1-5, data is arranged in byte order across the buffer and figure 15, elements 370, 364, 372a]; plurality of serializing modules operably coupled to the plurality of input memories [see column 7, lines 29-36, transmit serializers and figure 15, element 386a-386h], wherein each of the plurality of serializing modules serializes the corresponding portion of the at least one data block to produce a plurality of streams of data [see column 7, lines 29-41, the serializers outputs serial data]; programmable logic device operably coupled to distribute the plurality of streams of data to at least one of a plurality of output buffers based on a distribute instruction [see column 7, lines 1- 33, the controller outputs control information for each data lane and the outputs of the transmit serializers are fed through an optical or electrical link to a receive processor; column 8, lines 43-60, the receive processor has receive buffer for storing received data], wherein each of the plurality of output buffers includes a plurality of output memories [see column 8, lines 43-60, memory to stores data packets]; and plurality of deserializing modules [see column 8, lines 43-

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60, deserializers and figure 18, elements 454a-454h], wherein each of the plurality of deserializing modules is operably coupled to a corresponding one of the plurality of output memories of each of the plurality of output buffers [see figure 18, elements 454a-454h, 462], wherein corresponding ones of the plurality of deserializing modules deserializes a corresponding one of the plurality of streams of data to recapture the corresponding portions of the at least one block of data [see column 8, lines 43-60, serial streams of data is deserialized], wherein the plurality of output memories of the at least one of the output buffers stores the recaptured corresponding portions of the at least one block data [see column 8, lines 43-60, serial streams of data is deserialized and stored as data packets.]

*Allowable Subject Matter*

5. Claims 16-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: referring to claim 16, the prior art of record taken alone and/or in combination with other, does not teach and/or fairly suggest the limitation of comprising a controller operably coupled to the input buffer, the programmable logic, and the plurality of output buffers; the controller generates the distribute instruction, generates a plurality of read instructions, and a plurality of write instructions; the plurality of read instructions are provided to the plurality of input memories, and the plurality of write instructions are provided to the plurality of output memories, in

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combination with other recited limitations. Claims 17-22 depend on claim 16 and therefore objected as being allowable for the similar reasons as set forth above.

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Daane U.S. Patent Number: 5,781,544 has been made record of to further show the state of the art as it pertains to serializing means for combining the plurality of formatted data streams into a single serial data stream, wherein each of the plurality of formatted data streams is arranged in packets having a format dissimilar from others of said plurality of data streams.

Arcuri U.S. Patent Number: 5,115,450 has been made record of to further show the state of the art as it pertains to a high speed digital to analog to digital communication system with a serializer-deserializer.

Jordan U.S. Patent App. Pub. No.: 2003/0016697 A1 has been made record of to further show the state of the art as it pertains to a serializer-deserializer which converts the parallel data in each received packet to a corresponding serial data stream in a conventional manner as is known in the art. Thus, the serial data stream outputted from serializer-deserializer 410 comprises a plurality of data bytes, place keeping flags, and switch flags arranged sequentially in correspondence with the data bytes, place keeping flags, and switch flags in the serial data stream outputted from main buffer.

Hendrickson et al. U.S. Patent App. Pub. No.: 2006/0129869 A1 has been made record of to further show the state of the art as it pertains to a serializer-deserializer which receives parallel data from the processing unit and serializes the parallel data for transmission on the second serial data line. The processing unit provides parallel data to other units (not shown), as well as receives parallel data from other units.

Skokan U.S. Patent Number: 5,412,783 has been made record of to further show the state of the art as it pertains to method for efficient serialized data transmission through a network with use of a serializer and a deserializer.

Albrecht et al. U.S. Patent Number: 5,438,571 has been made record of to further show the state of the art as it pertains to use of a serializer and a deserializer to serialize and deserialize data.

Rich U.S. Patent Number: 5,784,370 has been made record of to further show the state of the art as it pertains to a control logic which transmits the cell data to serializer, which converts the parallel cell data into a serial stream of data, the serializer transmits the serial stream of data to deserializer via serial link.

Allen, Jr. et al. U.S. Patent Number: 6,404,752 B1 has been made record of to further show the state of the art as it pertains to use of a serializer and a deserializer to serialize and deserialize data.

Ducaroir et al. U.S. Patent Number: 6,341,142 B2 has been made record of to further show the state of the art as it pertains to use of a serializer and a deserializer to serialize and deserialize data.

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Agrawal et al. U.S. Patent App. Pub. No.: 2003/0112031 A1 has been made record of to further show the state of the art as it pertains to an improved programmable interconnect device specialized for bus -switching applications and provides serializer/deserializer, clock data recovery, and FIFO capabilities to permit high speed serial signaling.

Saha et al. U.S. Patent App. Pub. No.: 2003/0055998 A1 has been made record of to further show the state of the art as it pertains to a transmit rate adapter which includes FIFO, FIFO control logic, output logic and a transmit rate adaptation controller. The FIFO receives the parallel data stream from the de-serializer and stores the data in its internal registers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Niketa I. Patel whose telephone number is (571) 272 4156. The examiner can normally be reached on M-F 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272 4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.



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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner:

A handwritten signature in black ink, appearing to read 'Niketa Patel', is written over the printed name.

Niketa Patel

01/19/2007